Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Long-stay nursing home care: percent of residents who lose too much weight.

Source(s)

RTI International. MDS 3.0 quality measures user's manual, v9.0. Baltimore (MD): Centers for Medicare & Medicaid Services (CMS); 2015 Oct 1. 80 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Outcome

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percent of long-stay residents who had a weight loss of 5% or more in the last month or 10% or more in the last two quarters who were not on a physician prescribed weight-loss regimen noted in a Minimum Data Set (MDS) assessment during the selected quarter.

Rationale

Unintended and excessive weight loss is a significant problem among long-stay nursing home residents. Weight loss of 5% or more in one month or 10% or more over six months is usually considered unhealthy (Thomas et al., 2000), and prior studies suggest that weight loss is associated with increased mortality (Murden & Ainslie, 1994; Ryan et al., 1995; Sullivan et al., 2002; Stack et al., 2013; Keller et al., 2015).

Excessive, rapid weight loss may be a sign of depression, medical or dental problems that make eating difficult, end of life, or resident refusal to eat. At the same time, it may be a sign of problems with nutritional care within the nursing home. To help prevent unintended weight loss, it is important that the resident's diet be balanced and nutritious, and that staff spend enough time feeding residents who

cannot feed themselves. Empirical evidence indicates that organizational factors (structures) and care processes influence the nutritional intake and risk of weight loss for the elderly (Sanders, 1990; Van Ort & Phillips, 1995; Lange-Alberts & Shott, 1994; Kayser-Jones & Schell, 1997; Amella, 1999; Simmons et al., 2001; Altus, Engelman, & Matthews, 2002; Pelletier, 2004; Milne et al., 2005; Simmons et al., 2003; Beattie et al., 2014). Higher staffing levels and staff training, positive relationships and better communication between staff and residents, and a quieter and more private dining environment may increase residents' food consumption and improve their nutritional status (Sanders, 1990; Van Ort et al., 1995; Lange-Alberts et al., 1994; Kayser-Jones et al., 1997; Amella, 1999; Simmons et al., 2001; Altus, Engelman, & Matthews, 2002; Pelletier, 2004; Beattie et al., 2014). Some nutrition and dining programs may potentially reduce the risk of weight loss for nursing home residents. For example, a Cochrane meta-analysis found that supplementation produces small but consistent weight gain in older people (Milne et al., 2005). Another study found that facilities with verbal prompting and social interaction during meals had lower rates of weight loss (Simmons et al., 2003). Appropriate management of clinical conditions for people at higher risk for weight loss, e.g., those with depression, is also a potentially effective way to prevent unintended weight loss (Fawcett & Barkin, 1998; Malone, 2005; Rigler et al., 2001).

A review study demonstrated that weight loss is the most objective and reproducible marker of nutritious status for nursing home residents (Bell et al., 2013). By monitoring and publicly reporting nursing facility performance in preventing weight loss, nursing facilities will have incentives to focus on monitoring and maintaining residents' weight and nutritional status.

Nutritional issues have been identified as a priority area for practice change and research in long-term care (Keller et al., 2015; Morley et al., 2014; Rolland et al., 2011). In long-term care, the primary cause of malnutrition is poor food and fluid intake (Keller et al., 2014, Bell et al., 2013). Nursing home residents often have chronic diseases and functional impairments that may impair proper nutrition and hydration (Morley, 2007; Sloane et al., 2008; Bourdel-Marchasson, 2010) and require interventions by facility staff (Morley, 2007). Between 40% and 60% of nursing home residents have swallowing disorders, often related to dementia (Kayser-Jones & Pengilly, 1999). Various chronic illnesses are associated with malnutrition, including cancer, diabetes, depression, and chronic obstructive pulmonary disease (COPD) (Huffman, 2002). Medications, oral health problems (such as missing teeth), dysphagia, and dementia can complicate nutrition and hydration. Medications may cause nausea, anxiety, constipation, and lack of appetite. Depression has been identified as the "most common reversible illness" associated with malnutrition (Sloane et al., 2008). Dehydration is a major factor in weight loss in about 10% of nursing home residents (Kaldy et al., 2000; Feinsod et al., 2004; Smith, 2006). A review study demonstrated that weight loss is the most objective and reproducible marker of nutritious status for nursing home residents (Bell et al., 2013).

Using Minimum Data Set (MDS) 2.0 data for April to June 2009, the national prevalence of too much weight loss in nursing homes was 9.2%, ranging from a low of an average of 7.0% in Alaska to a high of an average of 11.4% in North Carolina (Centers for Medicare & Medicaid Services [CMS], n.d.). The national percentage of too much weight loss fluctuated somewhat between 2003 and 2009, with a modest downward trend (American Health Care Association, 2009). RTI analysis of MDS 3.0 in Q3 2014 shows that 5.7% of the long-stay residents experienced a weight loss of 5% or more in the past 30 days or 10% or more in the past 6 months.

Elderly individuals with excessive and rapid weight loss are at higher risk for functional decline, hip fracture (Langlois et al., 1996; Langlois et al., 2001; Ensrud et al., 2003) and mortality (Ryan et al., 1995; Covinsky et al., 1999; Kiely & Flacker, 2000; Sullivan et al., 2002; Wedick et al., 2002; Keller & Ostbye, 2005; Amador et al., 2006; Stack et al., 2013). Detecting and preventing weight loss is central to ensure appropriate nutritional intake.

Evidence for Rationale

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Primary Health Components

Nursing home; long-stay; weight loss

Denominator Description

Long-stay nursing home residents with a selected target assessment, except those with exclusions (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Long-stay nursing home residents with a selected target assessment which indicates a weight loss of 5% or more in the last month or 10% or more in the last 6 months who were not on a physician prescribed weight-loss regimen (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

A systematic review of the clinical research literature (e.g., Cochrane Review)

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Race

At the resident level, the developer compared the scores of this quality measure among different racial/ethnic groups. The lowest rate of weight loss was found among Hispanic residents (4.7%), and the highest rate was among white residents (5.8%). Differences in the rate of weight loss by racial/ethnic group were found to be statistically significant (p less than 0.0001).

Analyses at the facility level examined differences in the percent of residents who experienced a weight loss of 5% or more of the baseline weight in the last 30 days or 10% or more of the baseline weight in the last 6 months across two groups: facilities with proportions of white residents that were greater than or equal to the median proportion (87.5%) among facilities with sufficient sample size to meet minimum public reporting requirements, and facilities with fewer white residents than the median. The developer cross-tabulated racial composition (above/below median) with quality measure (QM) score (above/below median) and ran a 2-way Chi-square test for statistical dependence (with one degree of freedom). The results showed that the QM score was not statistically significantly different between the two groups of nursing homes (5.7% compared to 5.8%, p=0.06). A follow-up nonparametric test on the median-split data did not find a statistically significant relationship between facility-level racial composition and median facility scores on QM# 0689 (chi-square = 3.7, p =0.05).

Socioeconomic Status

To examine the potential for a relationship between socioeconomic disparity and weight loss, the developer examined the performance of this measure in facilities stratified by the proportion of residents who are Medicaid eligible, a proxy measure of low socioeconomic status. For this analysis, facilities were stratified into two groups: facilities with greater than 75% of residents who are Medicaid eligible and facilities with less than 75% of residents who are Medicaid eligible (75% of facilities have 75% or more of residents included in this measure who are Medicaid eligible). In Quarter 3 2014, no statistically significant difference was detected between the two groups (5.7% vs. 5.7%, F [1, 15145] = 0.0, p = 0.96). Thus, there is no disparity in this measure by socioeconomic status, as stratified by the proportion of residents who are Medicaid eligible.

Evidence for Additional Information Supporting Need for the Measure

National Quality Forum measure information: percent of residents who lose too much weight (long stay). Washington (DC): National Quality Forum (NQF); 2015. 31 p.

Extent of Measure Testing

A joint RAND/Harvard team engaged in a deliberate iterative process to incorporate provider and consumer input, expert consultation, scientific advances in clinical knowledge about screening and assessment, Centers for Medicare & Medicaid Services (CMS) experience, and intensive item development and testing by a national Veteran's Health Administration (VHA) consortium. This process allowed the final national testing of Minimum Data Set (MDS) 3.0 to include well-developed and tested items.

The national validation and evaluation of the MDS 3.0 included 71 community nursing homes (NHs) (3,822 residents) and 19 VHA NHs (764 residents), regionally distributed throughout the United States. The evaluation was designed to test and analyze inter-rater agreement (reliability) between gold-standard (research) nurses and between facility and gold-standard nurses, validity of key sections, response rates for interview items, anonymous feedback on changes from participating nurses, and time to complete the MDS assessment.

Analysis of the test results showed that MDS 3.0 items had either excellent or very good reliability even when comparing research nurse to facility-nurse assessment. In most instances these were higher than those seen in the past with MDS 2.0. In addition, for the cognitive, mood and behavior items, national testing included collection of independent criterion or gold-standard measures. These MDS 3.0 sections were more highly matched to criterion measures than were MDS 2.0 items.

Improvements incorporated in MDS 3.0 produced a more efficient assessment: better quality information was obtained in less time. Such gains should improve identification of resident needs and enhance resident-focused care planning. In addition, including items recognized in other care settings is likely to enhance communication among providers. These significant gains reflect the cumulative effect of changes across the tool, including use of more valid items, direct inclusion of resident reports, improved clarity of retained items, deletion of poorly performing items, form redesign, and briefer assessment periods for clinical items.

Refer to *Development & Validation of a Revised Nursing Home Assessment Tool: MDS 3.0.* for additional information.

Evidence for Extent of Measure Testing

Saliba D, Buchanan J. Development & validation of a revised nursing home assessment tool: MDS 3.0. Baltimore (MD): Quality Measurement and Health Assessment Group, Office of Clinical Standards and Quality, Centers for Medicare & Medicaid Services; 2008 Apr. 263 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Skilled Nursing Facilities/Nursing Homes

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Specified

Target Population Age

All ages

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Making Care Safer
Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Safety

Data Collection for the Measure

Case Finding Period

Quarterly

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Diagnostic Evaluation

Institutionalization

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Long-stay* nursing home residents with a selected target assessment, except those with exclusions

*Long-stay: An episode with cumulative days in facility (CDIF) greater than or equal to 101 days as of the end of the target period.

Exclusions

- Target assessment is an Omnibus Budget Reconciliation Act (OBRA) admission assessment *or* a prospective payment system (PPS) 5-day or readmission/return assessment
- Weight loss item is missing on target assessment

Note: Refer to the original measure documentation for details.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Long-stay nursing home residents with a selected target assessment which indicates a weight loss of 5% or more in the last month or 10% or more in the last 6 months who were not on a physician prescribed weight-loss regimen

Note: Refer to the original measure documentation for details.

Exclusions
Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Administrative clinical data

Type of Health State

Adverse Health State

Instruments Used and/or Associated with the Measure

Center for Medicare & Medicaid Services (CMS) Minimum Data Set (MDS) - Resident Assessment Instrument (Version 3.0)

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a lower score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Percent of residents who lose too much weight (long-stay).

Measure Collection Name

Nursing Home Quality Initiative Measures

Measure Set Name

Long-stay Quality Measures

Submitter

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

Developer

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

RTI International - Nonprofit Research Organization

Funding Source(s)

United States (U.S.) Government

Composition of the Group that Developed the Measure

United States (U.S.) Government Staff, Clinical Experts, Researchers, and Statisticians

Financial Disclosures/Other Potential Conflicts of Interest

No conflicts of interest exist.

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2015 Dec 10

Measure Initiative(s)

Nursing Home Compare

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Annual and (every three years) endorsement

Date of Next Anticipated Revision

Quarter 2 2016

Measure Status

This is the current release of the measure.

This measure updates a previous version: RTI International. MDS 3.0 quality measures user's manual. v8.0. Baltimore (MD): Center for Medicare & Medicaid Services (CMS); 2013 Apr 15. 80 p.

Measure Availability

Source available from the Centers for Medicare & Medicaid Services (CMS) Web site .

For more information, refer to the CMS Web site at www.cms.gov .

Companion Documents

The following are available:

Saliba D, Buchanan J. Development & validation of a revised nursing home assessment tool: MDS 3.0. Baltimore (MD): Quality Measurement and Health Assessment Group, Office of Clinical Standards and Quality, Centers for Medicare & Medicaid Services; 2008 Apr. 263 p. Available from the Centers for Medicare & Medicaid Services (CMS) Web site .

Nursing Home Compare. [internet]. Baltimore (MD): Centers for Medicare & Medicaid Services (CMS). 2000- [updated 2012 Nov 15]; [cited 2012 Nov 27]. This tool is available from the Medicare Web site .

NQMC Status

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This NQMC summary was retrofitted into the new template on June 28, 2011.

This NQMC summary was updated by ECRI Institute on August 15, 2013. The information was verified by the measure developer on December 3, 2013.

This NQMC summary was updated again by ECRI Institute on May 31, 2016. The information was not verified by the measure developer.

Copyright Statement

Production

Source(s)

RTI International. MDS 3.0 quality measures user's manual, v9.0. Baltimore (MD): Centers for Medicare & Medicaid Services (CMS); 2015 Oct 1. 80 p.

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